

## ABSTRACT

Systems and methods for efficiently distributing a file from a first node to a plurality of recipient nodes are provided. A method comprises distributing a plurality of subfiles that comprise a file from a first node to a first group comprising a plurality of recipient nodes, wherein at least one subfile distributed from the first node to each recipient node of the first group but no individual recipient node receives all of the plurality of subfiles from the first node. The method further comprises exchanging subfiles among the plurality of recipient nodes of the first group, wherein at least one recipient node of the first group begins communicating a portion of the subfile that it is receiving from the first node to at least one other recipient node before the at least one recipient node fully receives the subfile.